

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
10 November 2005 (10.11.2005)

PCT

(10) International Publication Number  
**WO 2005/106875 A1**

(51) International Patent Classification<sup>7</sup>: G11B 27/00,  
H04N 5/783, 9/804

KADONO, Shinya. OKADA, Tomoyuki. YAHATA, Hi-  
roshi.

(21) International Application Number:  
PCT/JP2005/008319

(74) Agent: NII, Hiromori; c/o NII Patent Firm, 3rd Floor,  
Shin-Osaka Suehiro Center Bldg., 11-26, Nishinakajima  
3-chome, Yodogawa-ku, Osaka-shi, Osaka 5320011 (JP).

(22) International Filing Date: 25 April 2005 (25.04.2005)

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA,  
MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM,  
PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY,  
TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU,  
ZA, ZM, ZW.

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
2004-134212 28 April 2004 (28.04.2004) JP  
2004-165005 2 June 2004 (02.06.2004) JP  
2004-251871 31 August 2004 (31.08.2004) JP

(71) Applicant (for all designated States except US): MAT-  
SUSHITA ELECTRIC INDUSTRIAL CO., LTD.  
[JP/JP]; 1006, Oaza Kadoma, Kadoma-shi, Osaka,  
5718501 (JP).

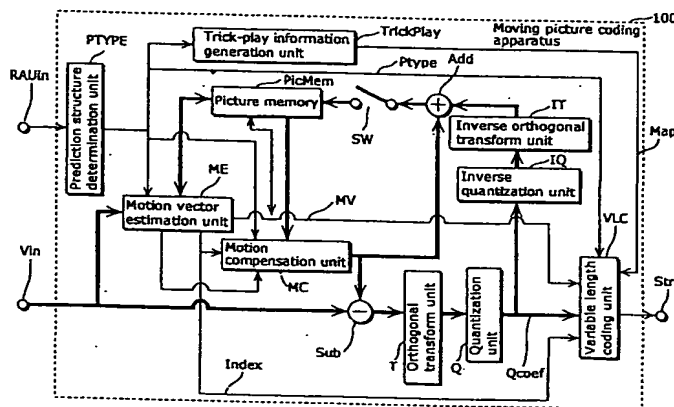
(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,  
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,  
GQ, GW, ML, MR, NE, SN, TD, TG).

(72) Inventors; and

(75) Inventors/Applicants (for US only): TOMA, Tadamasu.

[Continued on next page]

(54) Title: MOVING PICTURE STREAM GENERATION APPARATUS, MOVING PICTURE CODING APPARATUS, MOV-  
ING PICTURE MULTIPLEXING APPARATUS AND MOVING PICTURE DECODING APPARATUS



(57) Abstract: To provide a moving picture stream generation apparatus and the like that generates a moving picture stream that can be played back in trick-play such as variable-speed playback and reverse playback even in a coding format such as the MPEG-4 AVC in which flexible prediction structures are allowed. A moving picture stream generation apparatus includes: a trick-play information generation unit TricPlay for generating supplemental information on a random access unit basis, the supplemental information being referred to at the time of playback of each random access unit and each random access unit including one or more pictures; and a variable length coding unit VLC for generating a stream including the generated supplemental information and the one or more pictures by adding the supplemental information to each corresponding random access unit. At the top of each random access unit, an intra coded picture that can be decoded without depending on any picture is placed, and the supplemental information includes information for specifying pictures to be decoded at the time when pictures included in each random access unit are played back in trick-play.